

for example as a result of faulty preassembly of the injector to be set, the method according to the present invention is not carried out infinitely often, which would lead to a fault in the overall production sequence.

[0009] Additionally, according to the present invention, a correctly set injector may be removed from the measurement and setting station after the setting procedure. Thus, following the removal of the correctly set injector, a further injector preassembled on the production line can be provided in the correct position in the measurement and setting station by way of the handling apparatus.

[00010] This provides the possibility for a large number of preassembled injectors to be set correctly by way of setting procedures carried out one after another, and thus the productivity of the injector production can be increased significantly.

[00011] According to yet another embodiment of the present invention, the piezoelectric actuator has a specific sequence of charging pulses applied to it before the adjustment of the setting element. In this way, the reliability of the setting procedure can be increased considerably, since the characteristic expansion behaviour of the piezoelectric actuator when a specific electrical voltage is applied depends on the signals previously applied to the actuator. As a result of applying defined charging pulses to the piezoelectric actuator, the actuator is brought into a precisely defined state before the actual setting procedure. The precision of the injector setting can thus additionally be increased, so that in particular the number of setting procedures to be carried out again is reduced if the injector has previously been classified as incorrectly set.

Before

[00012] ~~As claimed in claim 6, before~~ the adjustment of the setting element, the injector is coupled to a high-pressure reservoir assuming a limited volume. As a result of the choice of a relatively small limited volume of, for example, 5 to 20 cm³, when the injector is switched through, a relatively large, significant pressure change is effected, which can be registered reliably by a manometer belonging to the pressure generating device.

[00013] According to a further preferred embodiment of the invention ~~as claimed in claim 8~~, during the adjustment of the setting element, the course of the torque applied to the setting element, the course of the angular position of the setting element, the course of the voltage applied to the actuator and/or the course of the pressure applied to the injector are registered. Registering the entire chronological course of the respective parameters has

the advantage that, as compared with registering the parameters at a single time, more accurate assessment with regard to the correct setting of the injector can be performed.

[00014] The injector can additionally be fixed by way of a gripping apparatus, so that the risk of rotation of the injector during the adjustment of the setting element is reduced.

*3. amend. of
see also Examples
Amendment*

~~[00015] The apparatus according to an embodiment of the present invention may be achieved by an apparatus for the automatic setting of injectors having the features of claim 10.~~

[00016] Further scope of applicability of the present invention will become apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

[00017] The present invention will become more fully understood from the detailed description given hereinbelow and the accompanying drawings which are given by way of illustration only, and thus are not limitative of the present invention, and wherein:

[00018] Figure 1 illustrates a setting apparatus for the automatic setting of diesel injectors according to an exemplary embodiment of the invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[00019] In the following text, the construction of a setting apparatus 100 for the automatic setting of diesel injectors will be explained using the Figure 1. Then, the function of the setting apparatus 100 and the method for the automatic setting of diesel injectors by way of the setting apparatus 100 will be explained.

[00020] As illustrated in Figure 1, the setting apparatus 100 has a first handling apparatus 102, which includes a first holder 103 and a second holder 104. The two holders 103, 104 are used to hold a preassembled diesel injector 101 which is subsequently to be set. The two holders 103, 104 are fixed to a rotary table 102a, which can be rotated by means of a drive 105. In this way, the diesel injector 101 can be brought, by way of a 180° rotation of